

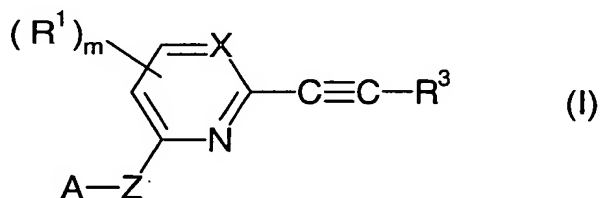
HERBICIDAL 2-ALKYNYL-PYRI (MI) DINES

What is claimed is:

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1. A method of combating undesired plant growth at a locus, comprising application to the locus of an effective amount of at least one compound of formula (I)

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wherein

X represents N or CR²;

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R¹ each independently represent a halogen atom or an optionally substituted alkyl, alkenyl, alkynyl, alkoxy, alkoxyalkyl, alkoxyalkoxy, group or a haloalkyl, haloalkoxy, cyano, nitro or SF₅ group; or -S(O)_p-R⁴, in which p is 0, 1 or 2, and R⁴ represents an alkyl or haloalkyl group; or -NR⁵R⁶, in which

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R⁵ and R⁶ each independently represent a hydrogen atom, an alkyl, alkenyl, aralkyl or aryl group, or R⁷O-CY-, in which R⁷ represents an alkyl group, and Y represents O or S;

R² represents a hydrogen atom or has the meaning given for R¹;

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R³ represents a hydrogen atom or a formyl group or an optionally substituted alkyl, alkenyl, trihydrocarbylsilyl or aryl group, or an optionally substituted 5- or 6- membered nitrogen-containing heteroaromatic group;

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A represents an optionally substituted aryl group, an optionally substituted 5- or 6- membered nitrogen-containing heteroaromatic group or an optionally substituted thienyl group;

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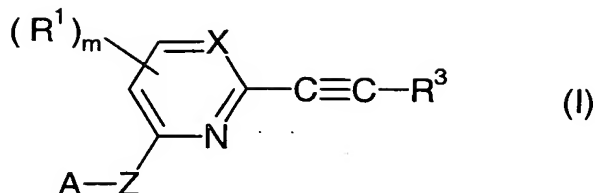
Z represents an oxygen or sulfur atom or a single bond;

m is 0, 1 or 2;

and the agronomically acceptable salts or N-oxides thereof.

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2. A compound of formula (I)



wherein

X represents N or CR²;

R¹ each independently represent a halogen atom or an optionally substituted alkyl, alkenyl, alkynyl, alkoxy, alkoxyalkyl, alkoxyalkoxy group or a haloalkyl, haloalkoxy, cyano, nitro or SF₅ group; or -S(O)_p-R⁴, in which p is 0, 1 or 2, and R⁴ represents an alkyl or haloalkyl group; or -NR⁵R⁶, in which R⁵ and R⁶ each independently represent a hydrogen atom, an alkyl, alkenyl, aralkyl or aryl group, or R⁷O-CY-, in which R⁷ represents an alkyl group, and Y represents O or S;

R² represents a hydrogen atom or has the meaning given for R¹;

R³ represents a hydrogen atom or a formyl group or an optionally substituted alkyl, alkenyl, trihydrocarbylsilyl or aryl group, or an optionally substituted 5- or 6- membered nitrogen-containing heteroaromatic group;

A represents an optionally substituted aryl group, an optionally substituted 5- or 6- membered nitrogen-containing heteroaromatic group or an optionally substituted thienyl group;

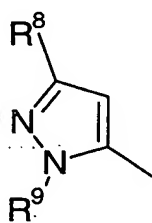
Z represents an oxygen or sulfur atom or a single bond;

m is 0, 1 or 2;

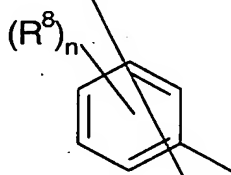
with the proviso, that bis-(2-ethynyl-pyrid-6-yloxy)-1,3-benzene, bis-[2-(2-trimethylsilylethynyl)-pyrid-6-yloxy]-1,3-benzene, bis-[2-(3,3-dimethyl-3-hydroxyprop-1-ynyl)-pyrid-6-yloxy]-1,3-benzene, bis-((2-ethynyl-pyrid-6-yloxy)-4-phenyl)-2,2-propane, bis-((2-ethynyl-pyrid-6-yloxy)-4-phenyl)-2,2-1,1,1,3,3,3-hexafluoropropane, and bis-((2-ethynyl-pyrid-6-yloxy)-4-phenyl)-sulfur are excluded and the agronomically acceptable salts or N-oxides thereof.

3. A compound as claimed in claim 2, wherein Z represents an oxygen atom.

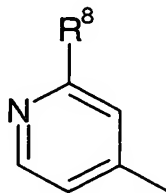
4. A compound as claimed in claim 2, wherein R^3 represents a phenyl group being optionally substituted by one or more halogen atoms or alkyl or haloalkyl groups.
5. A compound as claimed in claim 2, wherein R^3 represents a C_{1-6} alkyl or C_{2-6} alkenyl group being optionally substituted by one or more halogen atoms and/or C_{1-4} alkoxy groups.
6. A compound as claimed in claim 2, wherein A represents an optionally substituted phenyl, pyridyl, thienyl or pyrazolyl group.
7. A compound as claimed in claim 6, wherein A represents a group selected from the formulae (1), (2), (3), and (4):



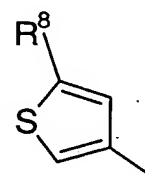
(1)



(2)



(3)



(4)

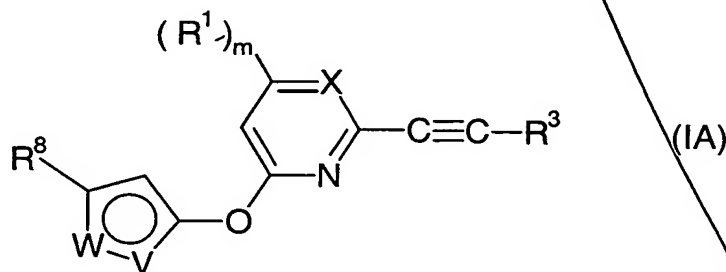
wherein

R^8 each independently represents a halogen atom or an optionally substituted alkyl, alkoxy or thioalkyl group;

R^9 represents an alkyl group; and

n represents an integer of 1 to 5.

8. A compound of formula IA



(IA)

wherein X, R¹ and R⁸ have the meaning given in any of the preceding claims,

R³ represents a formyl group or an alkyl, alkenyl group or an optionally substituted aryl or 5- or 6- membered nitrogen-containing heteroaromatic group;

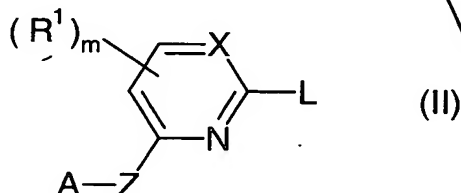
W-V represents N-CH, S-CH, N-CH-CH, CH-CH-CH or N-NR⁷; and

m is 0 or 1.

9. A compound according to any of the preceding claims selected from the group consisting of 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-(2-phenylethynyl)-pyridine; 4-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-6-methyl-2-(2-phenylethynyl)-pyrimidine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-6-(2-phenylethynyl)-pyridine; 4-methoxy-2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-6-(2-phenylethynyl)-pyridine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-(2-trimethylsilylethynyl)-pyridine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-[2-(4-trifluoromethylphenyl)-ethynyl]-pyridine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-[2-(4-fluorophenyl)-ethynyl]-pyridine; 6-ethynyl-2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-pyridine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-(4-methoxy-1-yn-3-enyl)-pyridine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-(3,3-diethoxyprop-1-ynyl)-pyridine; 2-(1-methyl-3-trifluoromethylpyrazol-5-yloxy)-4-methyl-6-(2-formylethynyl)-pyridine.

10. A process for the preparation of a compound of formula I according to Claim 2, which comprises

- (a) reacting a respective compound of formula II,



in which R¹, A, X, Z and m have the meaning given and L represents a suitable leaving group, with a compound of general formula III,

in which R³ has the meaning given, and Met represents a hydrogen or metal atom or an alkylmetal group.

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11. A herbicidal composition comprising a herbicidally effective amount of at least one compound of general formula I, as claimed in claim 1, together with a carrier.

10 12. A composition as claimed in claim 11, comprising at least two carriers, at least one of which is a surface-active agent.

13. Use of a compound of general formula I as described in claim 1 as a herbicide.

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